

**AMORPHOUS NON-INTUMESCENT INORGANIC FIBER MAT
FOR LOW TEMPERATURE EXHAUST GAS TREATMENT DEVICES**

~~CROSS REFERENCE TO RELATED APPLICATIONS~~

5 ~~This application claims priority from Provisional Patent Application
60/111,353, filed on December 8, 1998.~~

FIELD OF THE INVENTION

10 The present invention is directed to a mat functioning as a support element
for fragile structures in exhaust gas treatment devices, such as catalytic converters,
diesel particulate traps, and the like, for the treatment of exhaust gases. More
particularly, the present invention is directed to an amorphous, non-intumescent
inorganic fiber mat as a support element for low temperature exhaust gas treatment
15 devices.

BACKGROUND OF THE INVENTION

20 Catalytic converter assemblies for treating exhaust gases of automotive and
diesel engines contain a fragile structure, such as a catalyst support structure, for
holding the catalyst, used to effect the oxidation of carbon monoxide and
hydrocarbons and the reduction of oxides of nitrogen, the fragile structure being
mounted within a metal housing. The fragile structure is preferably made of a
frangible material, such as a monolithic structure formed of metal or a brittle,
25 fireproof ceramic material such as aluminum oxide, silicon dioxide, magnesium
oxide, zirconia, cordierite, silicon carbide and the like. These materials provide a
skeleton type of structure with a plurality of tiny flow channels. However, as noted
hereinabove, these structures can be, and oftentimes are, very fragile. In fact, these
monolithic structures can be so fragile that small shock loads or stresses are often
30 sufficient to crack or crush them.